

Basics of Cytology Collection and Evaluation

1. Sampling
 - a. Take note of which types of tumors are expected to exfoliate more easily
 - b. Various collection techniques including, “wood pecker” with a needle (with or without suction from an attached syringe)
 - c. Fluid collection requires different tubes depending on anticipated use and fluid characteristics
2. Slide preparation
 - a. Expel contents onto slide: Take note of common mistakes
 - b. Smearing
 - i. There are many options, some are far superior than others
 - ii. Note which techniques are options for different samples types
 - c. Things to avoid
3. Evaluation
 - a. Microscopy
 - i. Know which magnifications require oil or a cover slip
 - ii. Understand when you want to maximize resolution versus contrast
 - iii. Scanning the slide on low magnification must happen as the first step of evaluation prior to moving to higher magnifications.
 - b. Know what is normal in a given location
 - c. Inflammation
 - i. Types
 - ii. Knowing causes of various types of inflammation will guide further diagnostics
 - d. Neoplasia
 - i. Benign or malignant
 1. Know features of malignancy
 - ii. Categories
 1. Round cell
 2. Spindle cell
 3. Epithelial cell
 4. Other
 - iii. Cautions
 1. Concurrent inflammation
 2. Biologic behavior despite cytologic features
 - e. In-lecture series of cases and images for evaluation